

Beryllium

USSR

UDC 620.178.74:669.725

KORNIYENKO, L. A., and PAPIROV, I. I., Physico Technical Institute, Academy of Sciences, UkrSSR

"Impact Toughness and Structure of Fractures in Beryllium"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1970, pp 74-75

Abstract: The temperature dependence of the impact toughness and fracture structure of deformed beryllium was studied. The material tested was distilled beryllium, 99.9% pure. Specimens 10 x 10 x 55 mm were cut from vacuum-cast, upset and rolled billets, then notched 2 mm deep by an electrical erosion method to prevent stress concentration or microcrack formation. The specimens were mechanically polished, then subjected to recrystallization annealing at 850°C for 15 minutes before testing. The specimens were tested at 20-900°C. The impact toughness of the specimens increases from about 0.05 kg/cm² at 20°C to 0.2 kg/cm² at 450°C, then decreases to 0.04 kg/cm² at 900°C. Fractographic studies showed that the decreased impact toughness of beryllium at high temperatures results

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KORNIYENKO, L. A., and PAPIROV, I. I., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1970, pp 74-75

from a change in the nature of rupture. Static tensile tests indicate that the plasticity increases continually up to 900°C, but this plasticity cannot be used for impact tests, since at high test speeds rupture along grain boundaries is preceded by deformation of the matrix. Thus, significant softening of the grain boundaries occurs at high temperatures, resulting in a decrease in impact toughness.

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- 12 -

1/2 019
UNCLASSIFIED
TITLE--INFLUENCE OF THE SOLVATION OF GROWING CHAINS ON THE MICROFRACTICITY
OF THE RESULTING POLYMER -U-
AUTHOR--(04)-OSADA, YE., NEKRASOVA, N.A., PAPISOV, I.M., KABANOV, V.A.
PROCESSING DATE--04DEC70
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(5), 324-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SOLVENT ACTION, NMR SPECTRUM, POLYMERIZATION, METHACRYLIC
ACID, METHYL ETHER, ETHYLENE GLYCOL, METHOXY COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0724
STEP NO--UR/0460/70/012/005/0324/0325
CIRC ACCESSION NO--AP0136163
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136163

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NMR SPECTRA SHOWED THAT POLYMN. OF METHACRYLIC ACID (I) IN C SUB6 H SUB6 IN THE PRESENCE OF MECH SUB2 CH SUB2 OME (II) AND POLYETHYLENE GLYCOL (III) CAUSED A DISCONTINUITY IN THE MICROTACTICITY OF THE POLY(METHACRYLIC ACID) FORMED, PRESUMABLY DUE TO A SOLVATION OF I MACRORADICALS WITH II OR III.

UNCLASSIFIED

1/2 026

UNCLASSIFIED

PROCESSING DATE--2306170

TITLE--ROLE OF THE COOPERATIVE INTERACTION OF GROWING CHAINS AND
MACROMOLECULAR MATRIXES DURING POLYMERIZATION -U-
AUTHOR--(05)-OSADA, YE., ANTIPINA, A.D., PAPISOV, I.M., KABANOV, V.A.,
KARGIN, V.A.
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 379-402 (PHYS CHEM)
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MACROMOLECULE, METHACRYLIC ACID, POLYMERIZATION, HYDROGEN
BONDING, CHEMICAL REACTION RATE, MOLECULAR INTERACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1127

CIRC ACCESSION NO--AT0119981

STEP NO--UR/0020/70/191/002/0379/0402

UNCLASSIFIED

2/2 026

CIRC ACCESSION NO--AT0119981
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT. K. SUB2 S SUB2 O SUB8 INITIATED POLYMN. OF METHACRYLIC ACID (I) IN AQ. MEDIA AT 50DEGREES IN THE PRESENCE OF POLYETHYLENE GLYCOL (II) OF VARIOUS MOL. WTS. WAS STUDIED TO ESTABLISH THAT THE PROPOSED COOPERATIVE INTERACTION BETWEEN THE GROWING POLY(METHACRYLIC ACID) (III) CHAIN AND THE II MATRIX AROSE FROM H BONDING BETWEEN CO SUB2 H GROUPS AND II O ATOMS. THE POLYMN. RATE OF I FELL GREATER THAN 10 TIMES AS II MOL. WT. INCREASED FROM SIMILAR TO 100 TO SIMILAR TO 10,000. LOW MOL. WT. II DID NOT FORM STRONG COMPLEXES WITH III AS SHOWN BY INDEPENDENCE OF THE REDUCED VISCOSITY OF III IN THE PRESENCE OF II ON II MOL. WT. LESS THAN 1000. THE INITIAL RATE WAS INDEPENDENT OF II CONC. APPARENTLY, III MUST ATTAIN SUFFICIENT LENGTH FOR COOPERATIVE INTERACTION WITH II BEFORE POLYMN. CONTINUES ON THE MATRIX. AFTER ATTAINING A 3-4PERCENT YIELD (BASED ON II) OF III OR ADDING THE CALCD. AMT., THE POLYMN. RATE INCREASED TO THAT OBSD. IN THE ABSENCE OF II. AT HIGH PH, WHERE MONOMER AND III CHAINS WERE IONIZED, THE REACTION RATES IN THE PRESENCE AND ABSENCE OF II COINCIDE; BUT WITH LOWERING OF PH, THE RATE INCREASED INSIGNIFICANTLY IN THE PRESENCE OF II WHILE THE RATE IN THE ABSENCE OF II INCREASED. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

021

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--STRUCTURAL CHANGES IN MACROMOLECULES OF
POLY,4,VINYL,N,ISOANYLPYRIDINIUM BROMIDES -U-
AUTHOR--(05)-KIRSH, YU.E., BESSMERTNAYA, L.YA., TORCHILIN, V.P., PAPISOV,
I.M., KABANOV, V.A.
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(3), 603-6 (CHEM)
DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MACROMOLECULE, POLYMER, VINYL COMPOUND, PYRIDINE, BROMINATED
ORGANIC COMPOUND, ELECTROPHORESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0695

CIRC ACCESSION NO--AT0125367

STEP NO--UR/0020/70/191/003/0603/0606

UNCLASSIFIED

2/2 021

CIRC ACCESSION NO--AT0125367
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. THE ALKYLATION OF
POLY(4-VINYLPYRIDINE) WITH ISOAMYL BROMIDE GAVE
POLY(4-VINYLN-ISOAMYLPRIDINIUM BROMIDE) (I) CONFG. VARIOUS AMTS.
(ALPHA) OF THE TERTIARY N ATOMS. THE CHANGES OF THE INTRINSIC VISCOSITY (ETA)
OF I IN WATER (OBTAINED BY EXTRAPOLATION OF THE REDUCED VISCOSITY (ETA)
AT I CONCN. LESS THAN 0.01 G-DL. ONLY, SINCE ABOVE THAT CONCN. ETA
BEGINS TO DECREASE) INDICATE THAT I MOLS. COIL UP AT THE LOW ALPHA
VALUES, BECOMING SMALLEST AT ALPHA 12.2PERCENT, AND THEN BEGIN TO UNCOIL
WITH ALPHA INCREASE LESS THAN OR EQUAL TO 40PERCENT. THESE RESULTS WERE
CONFIRMED ALSO BY THE CHANGES OF I ELECTROPHORESIS RATE WITH ALPHA.
FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

UDC 621.910.71

USSR:

KRYUKOVSKIY, V. V., PAPIVIN, V. N., and CHERNYSHEVA, S. P.

"On-Chip Formation When Cutting Secondary Titanium Alloys"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya Publishing House, Vol 6, 1970, pp 122-126

Translation: Results are given of an investigation of the effect of cutting conditions and the surrounding environment on contraction of chips in cutting secondary titanium alloy. The power dependencies are determined and the microstructures and microhardness of the chip are studied. It is shown that with an increase in the power of feeding and cutting, contraction of the alloy chip decreases, and the coefficient of contraction may take on a value less than one. The speed of cutting influences the formation of "negative" chip contraction more than feeding does. The surrounding environment in which the cutting takes place does not influence chip contraction. The force of cutting rises noticeably with an increase in the depth of feeding. Increasing the cutting speed leads to a certain reduction in it. Increasing the microhardness of the chip layer next to the cutting takes place primarily through work hardening. One illustration, three tables, and one bibliographic entry.

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USSR

UDC 616.94-022.7(STAPHYLOCOCCUS)-3.085.373.3

PAPKO, G. F., Candidate of Medical Sciences, and SKURKOVICH, S. V., Professor,
Laboratory of the Immunology of Leucoses Central Order of Lenin Institute of
Hematology and Blood Transfusion

"Use of Hyperimmune Antistaphylococcal Plasma"

Moscow, Khirurgiya, No 7, Jul 70, pp 88-91

Abstract: Hyperimmune antistaphylococcal plasma, which contains a high titer of antitoxic antistaphylococcus antibodies, was administered to some 200 adults and 100 children (including 75 premature infants) in various Moscow hospitals and clinics. The patients were suffering from a variety of Streptococcal diseases, including sepsis, pneumonia, osteomyelitis, and staphylococcal diseases, including sepsis, pneumonia, osteomyelitis, and staphylococcal diseases. The plasma was injected intravenously (4 to 10 ml/kg body weight). The dose and number of transfusions were determined by the patient's age, general condition, the severity of the disease, and the level of passive antistaphylococcal immunity. Treatment usually comprised from 2 to 10 transfusions, 3 to 4 days apart, combined with antibiotics. The results were good to excellent in the great majority of the cases, and most of the institutions conducting the trials of the plasma endorsed its further use. Topical application of the plasma for the treatment of suppurating postoperative wounds also proved to be very effective.

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1/2 016
UNCLASSIFIED
PROCESSING DATE--30OCT70
TITLE--CRITICAL PHENOMENA DURING THE THERMAL BREAKDOWN OF POLY, VINYL
CHLORIDE -U-
AUTHOR--(02)--PUDOV, V.S., PAPKO, R.A.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(3), 218-22
DATE PUBLISHED--70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--THERMAL DEGRADATION, POLYVINYL CHLORIDE, HYDROGEN CHLORIDE,
CATALYSIS, CHEMICAL KINETICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/0677
CIRC ACCESSION NO--AP0124349
STEP NO--UR/0460/70/012/003/0218/0222
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 016

CIRC ACCESSION NO--AP0124349

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. KINETIC STUDIES OF POLY(VINYL CHLORIDE) (I) DEHYDROCHLORINATION SUGGESTED THAT IN MOST CASES (WITH THE EXCEPTION OF EXTRA FINE I FILMS AND FINELY DIVIDED I POWDERS) THE HCL EVOLVED DURING THERMAL DEGRADATION CATALYZED FURTHER DEGRADATION. THE CRIT. THICKNESS OF I FILMS, ABOVE WHICH THE CLEAVAGE OF HCL BECAME AUTOCATALYTIC, WAS DETD.

FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

I/2 009 UNCLASSIFIED
TITLE--PURIFICATION OF POLYMERIC MATERIALS -U-

PROCESSING DATE--30OCT70

AUTHOR-(04)-TIME, A.V., USHAKOV, V.G., MARTINOVSKIY, G.A., PAPKO, V.V.

COUNTRY OF INFO--USSR

SOURCE--USSR 264,690

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--03MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SYNTHETIC RUBBER, CHEMICAL PURIFICATION, CHEMICAL PATENT,
EMULSION, ELECTRIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1469

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128868

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0128868

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYMERIC MATERIAL, E. G. SYNTHETIC RUBBERS, ARE PURIFIED FROM ZIEGLER Natta CATALYST RESIDUES BY TREATING THE HYDROCARBON SOLNS. OF POLYMERS WITH H SUB2 O, WITH THEIR SUBSEQUENT REMOVAL FROM THE FORMED H SUB2 O HYDROCARBON EMULSION. THE EMULSION IS ACTED UPON BY AN ELEC. FIELD OF INDUSTRIAL FREQUENCY AND HIGH VOLTAGE.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MOVEMENT OF CHARGED WATER DROPLETS IN A HOMOGENEOUS D.C. ELECTRIC
FIELD -U-
AUTHOR--(03)--PANCHENKOV, G.M., VINOGRADOV, V.M., PAPKO, V.V.
COUNTRY OF INFO--USSR
SOURCE--KHIM. TEKHNOL. TOPL. MASEL 1970, 15(2), 34-6
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, CHEMISTRY
TOPIC TAGS--SODIUM CHLORIDE, ELECTRIC FIELD, WATER, LIQUID DROP MODEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0929 STEP NO--UR/0065/70/015/002/0034/0038
CIRC ACCESSION NO--AP0107458
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107458

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MOVEMENT OF CHARGED WATER DROPLETS SUSPENDED IN A HYDROCARBON MEDIUM IN A D.C. ELEC. FIELD, AND THE EFFECT OF SALTS DISSOLVED IN WATER ON THE MOVEMENT WAS INVESTIGATED. A COMPARISON OF EXPTL. DATA FOR THE RATE OF MOVEMENT OF CHARGE DROPLETS OF A 0.4760 N NaCl SOLN. WITH THE CALCD. RATE, AS INFLUENCED BY THE RADIUS OF THE DROPLET, IS PRESENTED.

UNCLASSIFIED

UDC: None

USSR

ARTEMENKOV, L. I., KOZLOV, P. I., MELIKHOV, P. I., MUKHIN, P. A.,
and PAPKOV, L. N.

"Maintaining a String Plasma in the TOKAMAK TO-1 by an Automatic Control System"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, vol 17,
No 5, 1973, pp 251-254

Abstract: The principal difficulty in controlling the maintenance of a string plasma in the Tokamak TO-1 is the amplification of the current induced in the control winding that occurs with shifts of the plasma. To cope with this and other control problems, the authors of this letter conducted experiments on the TO-1 to study the dependence of the microscopic characteristics of a plasma string on the time constant of the control winding within the range of 0.04-2 seconds. Typical oscillograms of the discharge at initial hydrogen pressures of $2 \cdot 10^{-4}$ mm Hg, with a longitudinal magnetic field of 8.2 kgauss and a vertical correcting field of 23 gauss for two values of the control winding time constant, show that a duration of a plasma current pulse of as much as 400 msec is basically a function of the vertical correcting field. The curves for these functions are obtained. Examination of oscillograms taken by magnetic probes

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ARTEMENKOV, L. I., et al, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, vol 17, No 5, 1973, pp 251-254

measuring the shift in the plasma string along its large radius shows that it can be divided into three stages, each of which is analyzed. The authors express their thanks to I. N. Golovin for his comments and to M. N. Shvindt for conducting the optical measurements.

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1/2 015 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--PRIMARY STAGES OF VISCOSE FIBER FORMATION -U-
AUTHOR--(04)-UKHANOVA, Z.V., PROZOROVA, G.YE., ANTIPOVA, R.V., PAPKOV, S.P.
COUNTRY OF INFO--USSR
SOURCE--KHIM. VOLOKNA 1970, (1), 32-4
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--RAYON, ELONGATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/1824 STEP NO--UR/0183/70/000/001/0032/0034
CIRC ACCESSION NO--AP0100398
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 015

CIRC ACCESSION NO--AP0100398

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE FORCED SYNERESIS OF RAYON (I) FIBERS (U., ET. AL., 1968) FORMED IN PPTN. BATHS CONTG. H SUB2 SO SUB4 80, NA SUB2 SO SUB4 120, AND ZNSO SUB4 0-150 G-L. WAS STUDIED. MAX. FORCED SYNERESIS RATE WAS REACHED WHEN THE STRETCHING RATIO WAS 1.25-1.6 (DEPENDING ON BATH COMPN.). THE TOTAL AMT. OF H SUB2 O SEPO. FROM THE FIBERS DUE TO NATURAL SYNERESIS WAS CONST. THE STRENGTH OF THE I YARN FORMED DURING ORIENTATIONAL ELONGATION WAS ESSENTIALLY INDEPENDENT OF THE COMPN. OF THE BATH. THUS, THE PRIMARY STAGES OF FORMATION OF I YARN PREVIOUSLY DISCUSSED WERE IN AGREEMENT WITH THE EXPTL. DATA.

UNCLASSIFIED

Acc. Nr.

AP0055641

Abstracting Service:

CHEMICAL ABST.

Ref. Code

UR 0460

112192g Membrane made from ultrathin polymer films.
Papkov, S. P.; Iovleva, M. M.; Banduryn, S. I. (Vses.
Nauch.-Issled. Inst. Iskusstv. Volokna, Mytishchi, USSR). Vyso-
komol. Soedin., Ser. B 1970, 12(2), 153-5 (Russ). Ultrafine films
prepd. from a 2% soln. of secondary cellulose acetate (I) (mol. wt.
87,000) in AcOH or from viscose (II) were examd. under an elec-
tron microscope. A photomicrograph of I films revealed 2 layers:
a primary membrane, which was very porous and fine, and a re-
ticular layer contg. large globules. The primary membrane of a
II film (obtained on the surface of a 1-3% H₂SO₄ soln. or H₂O)
was smooth whereas the 2nd layer had a variable morphology de-
pending on the compn., rheol. properties, and shrinkage during
syneresis. The formation of the primary membrane depended on
the reaction of the polymer soln. with the pptg. agent. CKJR

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polymers

THE RHEOLOGY OF POLYMERS
(Symposium in Moscow)

[Article by Doctor of Physical and Mathematical Sciences A. A. Mikhlin, Moscow, Mekhanika Akademi Nauk SSSR, Russian, Vol. 12, No. 5, August 1972, pp. 119-121]

Rheological investigations are being developed in two directions at the present time: firstly, as a component part of physicochemical work pursuing the goal of establishment of essential correspondences between the molecular structure of a substance and its macroscopic properties and, secondly, as a description of the mechanics of continuum which is interested in finding connections between the kinematic and dynamic parameters of flow and in solving the corresponding boundary problems and their application to analysis of concrete technological processes. At the regular (Seventh) symposium on the rheology of polymers, organized by the Institute of Petrochemical Synthesis (Imeni A. V. Topchiyev of the AS USSR and held on 10-14 April in Moscow, the main attention was given to the first direction of investigation. Participating in the sessions were over 500 persons, including a group of scientists from East Germany, Poland, Czechoslovakia, Bulgaria, about 100 reports were heard. Discussed at the symposium was a broad complex of problems connected with the physical chemistry and mechanics of polymeric materials, study of the molecular nature of relaxation effects in macromolecular chains, and the construction of mechanical models for the quantitative description of the behavior of a polymer under different conditions of deformation with detailed comparison of the molecular parameters of reliably characterized samples and their viscoelastic properties. Discussed with special interest was the problem of the liquid crystalline state and the influence of the physical structure of the system on its rheological properties.

The symposium was opened with the addresses of greeting of K. A. Andrianov and A. Yu. Ishinskiy, who emphasized the

comprehensive importance of rheological investigations to polymer sciences as a whole and numerous applications of high molecular compounds and compositions based on them for structural purposes. Then was born the survey report of A. A. Vinogradov who sketched contemporary concepts of the connection of the molecular structure and rheological properties of polymers. Systematic investigations of the viscoelastic properties and fluidity of monodisperse polymers with different flexibility of the chain conducted in recent years, have made it possible to quantitatively estimate the role of the length of the molecular chain in manifestations of mechanical properties characteristic of polymeric systems. In particular, the limiting conditions of deformation, when the polymer still preserves fluidity and can be processed in stable conditions, have been established. Another aspect of that problem is connected with the determination of general regularities of the transition of the fluid into the highly elastic state as a function of the intensity of deformation and with finding a correlation between the behavior of the polymer in different states and of its structure.

The reports of Iu. Ya. Golik, G. M. Vichayev, Iu. V. Andriyeva and others were devoted to general problems of polymer physics in connection with study of the processes of viscoelastic and dielectric relaxation in different physical states and continuation of the correspondence of those processes with the conformational properties of polymeric chains. Also belonging to the same "physical" direction in rheology was the report of S. Ya. Frenkel on the problem of phase transformations arising as a result of deformation and their influence on the conditions and regime of flow of polymeric systems.

In a number of reports the structure of fluid polymers and the influence of the structure of the system on its rheological properties were discussed. Thus, A. A. Tager discussed in detail the correspondence of the structure and viscosity of solutions of polymers. The report of S. P. Parkov and co-authors presented the results of study of the rheological properties of anisotropic solutions of rigid-chain polymers which can form a liquid crystalline phase. Possible models of liquid crystals were examined by L. G. Shalikhov and a hydrodynamic theory of their behavior was proposed by E. I. Aepa and A. N. Bulavin. Structural problems connected with the liquid crystalline order were presented in survey form by I. G. Chistyakov, and the application of those concepts to the description of the intra- and intermolecular liquid crystalline order was examined in the report of V. N. Tsvetkov and co-authors.

Also related to problems of polymer physics was the report of A. A. Vinogradov (Poland), who told about new results obtained by him in the theory of polymeric lattices. A. B.

Acc. Nr.: 170046510

Ref. Code: UR 0146

USSR

UDC 681.14

PAPKOV, V.I.

"Choice of Organization for Performing Control Transfer Instructions"

Vybor organizatsii vypolneniya komand peredachi upravleniya (cf. English above), Leningrad, Izvestiya Vysshikh Uchebnykh Zavedeniy, Priborostroyeniye, 1970, No 1, pp 72-75

Reel/Frame

19781765

AT0046510

Translation:

In designing high speed digital computers it is very important to make the correct selection of the organization of the process for performing control transfer instructions. The present article shows the necessity for taking into account the structure of the process for the performance of an individual instruction and the instruction stream as a whole. A technique is presented for selecting the organization of the process for performing control transfer commands. The technique may be used in automated design.

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19781766

1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--INTERACTION OF GLASS WITH WATER UNDER DYNAMIC HYDROTHERMAL
CONDITIONS -U-
AUTHOR--(04)-DERYAGIN, B.V., PAPLAUSKAS, A., RYABOV, V.A., SEMENOV, N.I.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1316-18
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--GLASS SURFACE PROPERTY, LIQUID GLASS, WATER, FLOW RATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1123 STEP NO--UR/0020/70/191/006/1316/1318

CIRC ACCESSION NO--ATD14014

2/2 019

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134814

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RATE OF GLASS REMOVAL (Δ) CHARACTERIZING THE INTERACTION OF GLASS WITH WATER UNDER DYNAMIC HYDROTHERMAL CONDITIONS IS STUDIED. AN INITIAL INCREASE IN Δ WITH TEMP. (T) IS PRACTICALLY THE SAME FOR ALL THE WATER FLOW RATES USED (3.3, 6.4, 9.1, AND 17.8 M-SEC), BUT IT SHARPLY INCREASES FROM SOME CRIT. TEMP. REACHING MAX. VALUES (Δ SUBMAX) AT T SUBMAX; FOR HIGHER FLOW RATES Δ SUBMAX IS HIGHER AND SHIFTS TOWARDS THE HIGHER TEMPS. WITH FURTHER INCREASE IN TEMP. Δ DECREASES. FOR FLOW RATES LARGER THAN 2 M-SEC THE GLASS SURFACE HAS A MAT OR SMOOTH FINISH DEPENDING ON THE TEMP. OF THE WATER FLOW; FOR FLOW RATES SMALLER THAN 1 M-SEC. THE GLASS SURFACE IS COVERED WITH THE PRODUCTS OF THE WATER GLASS COMPONENT INTERACTION RESULTING IN FORMATION OF THE LIGHT DISPERSION SURFACE.

FACILITY: INST. FIZ. KHIM., MOSCOW, USSR.

USSR

UDC 539.4.015.1

DERYAGIN, B. V., Corresponding Member, Academy of Sciences, USSR, ~~PAPLAUSKAS, A. B.~~, RYABOV, V. A., and SEMENOV, N. I., Institute of Physical Chemistry, Academy of Sciences, USSR, Moscow

"Strengthening of Glass by the Hydrothermal Method"

Moscow, Doklady Akademii Nauk SSSR, Vol 195, No 6, 21 December 1970, pp 1326-1328

Abstract: It is shown that when glass is subjected to hydrothermal treatment under dynamic conditions, not only is the surface of the glass dissolved, but it is also greatly strengthened. Under certain conditions, strengthening by a factor of 5-6 can be obtained with retention of the optical properties of the glass, and glass with a light-diffusing surface can be obtained with strengthening by a factor of 4-5. If the optical properties of the glass need not be considered, tenfold strengthening may be obtained. This is valid only with respect to defects of the glass, abstracting from other factors. 3 figures, 5 bibliographic entries.

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USSR

UDC 531.787.913.087.92

KSENOFONTOV, M.YE., ~~PAPLOVA, T.T.~~, MIRONOV, A.I., SMYSLOV, I.I.,
RAPATSKAYA, I.V.

"Tensotransducers Based On Silicon-Spinel"

V sb. Pribory tochnoy mekh. i tekhnol. priborost. (Devices Of Precision Mechanics And Technology Of Instrument Construction--Collection Of Works), Moscow, 1971, pp 36-38 (from RZh:Elektronika i yeye prizeneniye, No 2, Feb 72, Abstract No 23282)

Translation: Tensotransducers [tenzopreobrazovatel'] (T) based on Si-spinel were produced by build-up on spinel wafers (ground, polished, and annealed in a H_2 flow at a $1500^\circ C$ temperature) of a monocrySTALLINE layer of Si by pyrolysis of the spinel. With the aid of photolithography, tensorsensors were produced on the structure prepared, the outlets to which were produced by thermo-compression. The T produced had the characteristics: resistance, 480 ohm; resistivity, 0.01 ohm.cm; temperature coefficient of resistance, $9.1 \times 10^{-4} ^\circ C^{-1}$; coefficient of tensosensitivity (as a function of crystallographic orientation) 55 ÷ 95. 1 ill. 2 tab. 2 ref. 7.B.

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USSR

UDC 612.13-07:577.15.031

LYSINA, G. G., and PAPLYUK, A. F., Kiev Scientific Research Institute of Labor Hygiene and Occupational Diseases

"Hemodynamic Changes Caused by General Low-Frequency Jerky Vibrations"

Kiev, Vrachebnoye Delo, No 1, 1973, pp 124-128

Abstract: Hemodynamic changes were studied in 33 female bridge crane operators with 10 and more years of service. Early pathological signs in the nervous system were observed in 24, and late pathological signs in 9 operators. Data obtained with mechanical and cardiographic methods revealed several hemodynamic changes. Among them, a decrease in the maximal, lateral, pulse, and stroke pressure. The minimal pressure was low at the outset of the disease but it increased with the severity of clinical symptoms and the length of occupation. A general peripheral resistance of precapillaries to the blood flow and propagation rate of the pulse wave was much higher (compared with controls) in operators with more than 10 years of service. This condition was indicated by the greater tone of small and intermediate blood vessels that is characteristic for hypertension. A decreased maximal, pulse, and stroke blood pressure indicated the presence of disturbances in the regulatory mechanisms which appeared in the form of an angiodystonic syndrome (asymmetry and disturbance in 1/2

USSR

LYSINA, G. G., and PAPLYUK, A. F., Vrachebnoye Delo, No 1, 1973, pp 124-128

normal ratios of arterial pressure in different parts of the blood vessel system, thermoasymmetry, and several other vegetative shifts).

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Acc. Nr.: AP0047043

Ref. Code: UR 0122

USSR

UDC 621.787.4:669.15.156

PAPSHEV, D. D., Candidate of Technical Sciences

"Increasing the Contact Endurance of High-Strength (Tempered) Steels by Surface Rolling"

Moscow, Vestnik Masinostroyeniya, No 1, 1970, pp 35-38

Abstract: The results of thorough investigations of a series of problems related to the efficiency of mechanical surface hardening, as a method for improving the contact endurance of high strength steels are presented. A great number of carbon and alloy steels of different origins, used in the petroleum, bearing and machine tool industries were tested. The surface hardening was done on a lathe by ball rolling using a specially designed device. It was observed that the temperature during the rolling process sharply decreases from the surface toward the depth of the layer. The degree of heating is determined mainly by pressure and speed of rolling, and also by the size of the de-

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formation region, and by mechanical and thermophysical properties of the material. Studies of temperature fields make it possible to substantiate the mechanisms of residual stress formation. It follows, that the residual stresses are the result of stresses produced by thermal stresses and by phase transformations. The effect of phase transformations occurring when rolling the martensite steels is illustrated in a graph. The results show, that surface plastic deformation is accompanied by the rise in density of dislocations, fractionation of blocs and by increase in micro deformations. It can be assumed that the dispersion hardening, the variation of dislocation density and the transformation of the residual austenite into martensite play a great role in the effect of strengthening by surface plastic deformation. It is pointed out that, structural phase transformation, complex in nature, may occur, due to complex effect of high pressure and temperature in a deformable layer.

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It can also be assumed that a preliminary plastic deformation of the surface layer and a high level of residual compression stresses, produced by it, will increase the resistance of plastic deformation to friction. And in view of increasing structural homogeneity the formation and the development of fatigue cracks is being delayed.

All these assumptions are substantiated by a great number of laboratory investigations and also by a series of industrial operations of rolling contact bearings for drill bits, thrust bearings and other tempered steel parts. Thus the treatment of high-strength steels by ball rolling can be considered as the most simple and efficient method for increasing the contact endurance of high-strength steels. Original article has 5 figures and 2 tables.

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87

19790487

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT7
TITLE--SYNTHESIS OF (8,ARGININE),DE,9,GLYCINE AND
DE,(8,ARGININE,9,GLYCINE) VASOPRESSINS -U-
AUTHOR-(02)-PAPSUYEVICH, O.S., CIPENS, G.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 709-10
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
TOPIC TAGS--VASOPRESSIN, CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/2014 STEP NO--UR/0079/70/040/003/0709/0710
CIRC ACCESSION NO--AP0120657

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--23OCT7

CIRC ACCESSION NO--AP0120657

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ZAORAL AZIDE METHOD (1965) STARTING WITH THE APPROPRIATE HEXAPEPTIDE WITH L-PROLINE AMIDE OR L,PROLYL,N,TOSYL,L,ARGININE AMIDE, RESP., GAVE TOS,L,CYS(BZL),L TYR,L,PHE,L,GLY,L,ASN,L,CYS(BZL),L,PRO,L,ARG(TOS)NH SUB2 M. 105-8DEGREES, (ALPHA) PRIME25 SUBD 9.3DEGREES, AND TOS,L,CYS(BZL),L,TRY,L,PHE,L, GLY,L,ASN,L,CYS(BZL),L,PRO,NH SUB2 M. 222-4DEGREES, (ALPHA) PRIME25 SUBD MINUS 17.3DEGREES. THESE POLYPEPTIDE AMIDES TREATED WITH NA IN LIQ. NJ SUB3 TO REMOVE THE PROTECTIVE GROUPS. THEN OXIDIZED WITH K SUB3 FE(CN)SUB6 AND PURIFIED ON SEPHADEX G-15 GAVE (8, ARGININE), DE, 9, GLYCINE)VASOPRESSIN HAVING NO DETECTABLE UTEROTONIC ACTIVITY AND SHOWING A DEPRESSOR RATHER THAN PRESSOR ACTIVITY IN RATS; SIMILARLY THE OTHER POLYPEPTIDE AMIDE GAVE DE, 8, ARGININE, 9, GLYCINE)VASOPRESSIN FOUND TO HAVE MILD UTEROTONIC AND VASOPRESSOR ACTIVITY. FACILITY: INST. ORG. SIN., RIGA, USSR.

UNCLASSIFIED

USSR

UDC 621.382.3:546.289

DVORNIKOV, V.I., PAFUSH, V.G.

"Temperature Dependence Of The Noise Factor Of Germanium Transistor Of The Drift Type"

Elektron. tekhnika. Nauch.-tekhn.sb. Kriogen. elektronika (Electronics Technology. Scientific-Technical Collection. Cryogenic Electronics), 1971, Issue 1(3), pp 16-22 (from RZh:Elektronika i yeye primeneniye, No 10, October 1972, Abstract No 10B183)

Translation: The experimental characteristics are presented of the noise of germanium drift transistors at high frequency in the region of the white spectrum. The temperature dependence is studied of the noise factor of transistors during cooling of them in the temperature interval 78--293° K. The value of the noise factor in all the transistors tested decreases at first in proportion to the reduction of the temperature, reaches a minimum value at some temperature, and subsequently again increases. The optimum temperature corresponding to the minimum value of the noise factor lies in the interval 120--200° K. 2 ill. 3 tab. 2 ref. N.K.

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USSR

UDC 661.183.123

PAPUKOVA, K. P., KUZNETSOVA, N. N., and LIREL', A. N.

"Synthesis of Phenoxyalkylphosphonic Acids and Ion Exchange Resins Derived from Them"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 45, No 8, Aug 72, pp 1808-1813

Abstract: Phenoxyalkylphosphonic acids with the general formula $C_6H_5O(CH_2)_nPO_3H_2$ were synthesized, where $n = 1, 2, 3$ and 6 . The products are dibasic acids; they are colorless crystalline compounds, soluble in ethanol, dimethylformamide and with heating, in nitromethane, water, dichloromethane, and acetone; they are insoluble in acetone. Their melting points and acid strengths decrease with increasing length of the alkyl chain. Polycondensation of these acids with formaline in presence of HCl leads to the production of ion exchange resins containing phosphonic acid groups in the aliphatic side chains of varying length. The exchange capacity ranged from 8.9 to 6.6 mg-eq/g. The kinetic properties of these resins were inversely proportional to the length of aliphatic chains containing the phosphine group.

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Acc. Nr.

AP0050439

Abstracting Service:

CHEMICAL ABST. 570

Ref. Code

4R0051

105768w Modulation of the Q-factor of a molecular gas laser by using saturating filters. Losev, V. V.; Papulovskii, M. R.; Fedina, T. A. (USSR). *Opt. Spektrosk.* 1970, 28(2), 420-1 (Russ). For modulation of laser irradiation, a cell filled with C_2H_2 was used as a satg. filter; C_2H_2 had an absorption band in the region of irradiation frequency of laser 940-60 cm. Generation of sequence of normal irradiation impulses was obtained. Their duration and repetition were changed in dependence on parameters of the active medium and C_2H_2 pressure. The optimal operation conditions were 3.5 torr of C_2H_2 and 25-30 mA. Under these conditions, the duration of the impulses ≤ 10 μ sec. The rearrangement of the equipment enabled obtaining the impulse irradiation of the lines P-12 to P-26. The max. output was with the P-20 line. The pressure of admixt. (He, N, CO_2 , SF_6) influenced significantly parameters of the generation of the impulses. The obsd. oscillogram was quite complicated, which was caused by both complexity of active medium and flexibility of gas filter.

M. Tichy

REEL/FRAME
19810418

PAP'YAN, N. M.

EFFECT OF FLIGHT FACTORS ON DORMANT LETTUCE SEEDS

(Article by Yu. V. Paryan, N. V. Nevskaya, N. M. Pap'yan and T. N. Soboleva; Moscow, Kosmicheskaya Biologiya i Meditsina, Muzgim, Vol. 5, No. 6, 1971, submitted for publication 16 June 1971, pp 24-31)

SO:JPRS 55100
4 FEB 72

UDC 581.48.037:629.78.045

Abstract: The effect of spaceflight factors on gamma-irradiated and unirradiated lettuce seeds was examined. The experiments were carried out using seeds with normal and increased levels of spontaneous and induced mutagenesis. The flight was shown to influence spontaneous and induced mutagenesis in lettuce seeds.

A considerable amount of data on the influence of spaceflight factors on plants has now been accumulated in the foreign and Russian literature. The investigations were made with air-dried seeds, sprouts and flowering Tradescantia plants. A number of authors have published communications on the influence of spaceflight factors in general (N. I. Muzhadin, et al., 1965; G. P. Parfenov). This paper covers materials pertaining only to air-dried seeds.

As demonstrated by the results of published studies, carried out using different objects (Table 1), the results are nonuniform: in one case there was an increase in the number of cells with chromosomal rearrangements; in others there was no influence of spaceflight factors on the appearance of cytogenetic changes. Despite the nonuniformity of the results, it can be assumed that they were not determined by differences in the radiosensitivity of the biological objects (B. B. Sidorov and N. N. Sokolov; L. K. Gordon, et al.; N. I. Muzhadin, 1965; N. L. Delone and V. V. Antipov) and were not dependent on spaceflight duration (V. V. Khvostova, et al.; N. L. Delone, et al.). Some authors do not relate the increase in the effect noted in seeds under flight conditions to exposure to cosmic radiation (B. B. Sidorov and N. N. Sokolov; V. V. Khvostova, et al.). This is also indicated by the results of measurements of the doses of ionizing radiation during satellite and spaceship flights.

USSR

UDC 528.517:535.8

DIANOVA, V. A., MOVSESYAN, R. A., PARYGIN, V. N., and
PAPYAN, V. A.

"Modulation of the Helium-Neon Laser Emission With the Help of
 Lithium Niobate Crystals"

Moscow, Geodeziya i Kartografiya, No 1, Jan 72, pp 32—36

Abstract : Experiments conducted with new electro-optical materials, lithium niobate (LiNbO_3) crystals, at the Yerivan Polytechnic Institute imeni K. Marx, are described. The results are discussed by reference to experimental and calculated modulation depth - modulating power curves of LiNbO_3 , shown in comparison with KDP curves. It was found that the use of LiNbO_3 crystals instead of KDP crystals in the capacity of electro-optical element in a photometric range finder with a modulator of toroidal type possesses advantages over ADP and KDP crystals, including: 1) the required power to obtain the same efficiency of the modulator decreases by 2—2.5 times; 2) the size of the modulator can be reduced by ~ 4 times; 3) the LiNbO_3 crystals are not hygroscopic and are much stronger than KDP crystals; 4) thermal effects have not been observed in modulators with LiNbO_3 crystal at the average power of 6 w. Three illustr., six biblio. refs.

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ATO032096

NUCLEAR SCI. ABST. 2-70 UR 0000

6510 (NP-tr-1961) EXPERIMENTS WITH STRONG SHOCK-
WAVES ON "VODA I." Kapitonov, V. A.; Korolov, V. A.; Lagu-
nov, V. M.; Nesterikhin, Yu. E.; Papyrin, A. N.; Ponomarenko,
A. G.; Federov, V. L. (Akademiya Nauk SSSR, Novosibirsk. (In-
stitut Yadernoy Fiziki). Translated for Culham Lab., Abingdon,
Eng., from Preprint No. 233. 11p. (CTO-658). Dep. CFSTI
(U. S. Sales Only).

Experiments are described on the excitation of strong collision-
less shock waves ($M \geq 5$) with subsequent containment of the
plasma by the magnetic field of the shock loop. A magnetic piston
of ~ 20 kOe was produced within $\sim 100 \times 10^{-8}$ sec by a current
generator forming a long line with water insulation for 250 keV
and wave impedance of 1 Ω . (auth)

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NUCLEAR SCI. ABST. 2-70

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6511 (NP-tr-1662) SOME ASPECTS OF HEATING A
PLASMA BY A STRAIGHT DISCHARGE CURRENT. Koydar,
V. S.; Papyrin, A. N.; Ponomarenko, A. G.; Yablochikov, B. Ya.
(Akademiya Nauk SSSR, Novosibirsk, Institut Yadernoy Fiziki).
Translated for Culham Lab., Abingdon, Eng., from Preprint
No. 241, 10p. (CTO-655), Dep. CFSTI (U. S. Sales Only).

New experimental results on the turbulent heating of plasma by
the current of a straight discharge are reported. It is shown that
for different current shapes the potential drop in the plasma col-
umn is concentrated in a region of ~5 cm and may move along the
discharge gap. The maximum anomalous resistivity and gap volt-
age coincide with the instant of the abrupt drop of the current, and
this moment coincides with the return electron current to the cath-
ode. The onset of turbulence is characterized by a spreading of the
plasma column to the chamber walls. Possible causes of the ob-
served effects are suggested. (auth)

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UDC: 517.948.32

GOVORUKHINA, A. A. and PARADOKSOVA, I. A.

"An Infinite System of Linear Algebraic Equations"

V sb. Materialy Vses. konferentsii po krayev zadacham (Materials of the All-Union Conference on Boundary Value Problems--collection of works) Kazan', Kazan University, 1970, pp 83-86 (from RZh-Matematika, No. 3, March 71, Abstract No. 3B267)

Translation: The following infinite system of algebraic equations is considered:

$$x - Tx = c : \quad (1)$$

$$\text{where } Tx = \{\xi_n\} = \begin{cases} \sum_{k=-\infty}^{\infty} a_{n-k} x_k, & n \geq 0, \\ \sum_{k=-\infty}^{\infty} b_{n+m(k)} x_k, & n < 0; \end{cases}$$

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GOVORUKHINA, A. A., et al, sb. Materialy Vses. konferentsii po krayev zadacham Kazan', Kazan University, 1970, pp 83-86

sequences $\{a_n\}, \{b_n\} \in \underline{1}$; $A(t) = \sum_{k=-\infty}^{\infty} a_k t^k$, $|t| = 1$; $c = \{c_n\} \in \underline{1}_2$;

$x = \{x_n\} \in \underline{1}_2$; $m(k)$ is a whole-numbered function, which takes each of its values at no more than q points; $m(k) < 0$ for $k < 0$.

Theorem 1. If $1 - A(t) \neq 0$, the Noether theorem is justified, and the index of the system is determined by the formula

$$\kappa = -\text{Ind} [1 - A(t)]_{|t|=1} = - \int_{|t|=1} d\tau \arg [1 - A(\tau)].$$

A method for regularizing system (1) is indicated for the case of $m(k) = mk$. It is asserted that the spectrum of operator T consists of 1) the spectrum of operator A i.e., of the points in the closed curve $\lambda - A(t)$, $|t| = 1$, and those points that do not lie on it, where $\text{Ind}[\lambda - A(t)]_{|t|=1} \neq 0$; 2) eigen-values of some completely continuous operator which do not belong to the spectrum of operator A . V. Rogozhin

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USSR

UDC: 621.396.6-181.5

PARFENYUK, V. M., VORONA, A. V., ZHDANOV, A. N., MATVEYCHUK, A. I.

"A Device for Charging Evaporators"

USSR Author's Certificate No 270433, filed 20 Jan 67, published 13 Aug 70
(from RZh-Radiotekhnika, No 1, Uan 71, Abstract No 1V222 P)

Translation: This Author's Certificate introduces a device for charging evaporators such as vacuum atomizing chambers. The device contains a ratchet drum, a trough and a shield. As a distinguishing feature of the patent, the operational reliability of the device is improved by fastening the shield to the trough, the housing of the device is coupled through leaf springs to a rotating lever, and the ratchet drum is fitted with a socket which accommodates a plunger.

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1/2 009 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--A COMPARISON OF NETWORKS OF A THREE PHASE ASYNCHRONOUS MOTOR WITH
RECTIFIERS IN THE STATOR CIRCUIT TO ACHIEVE REDUCED SPEEDS -U-
AUTHOR-(02)-PARAIL, V.A., KADEYEV, G.D.

COUNTRY OF INFO--USSR

SOURCE--NOVOCHERKASSK, IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY,
ELEKTROMEKHANIKA, NO 3, 1970, PP 285-289
DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--ELECTRIC NETWORK, ELECTRIC MOTOR, ELECTRONIC RECTIFIER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/1685

STEP NO--UR/0144/70/000/003/0285/0289

CIRC ACCESSION NO--AT0123509

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0123509

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NETWORKS OF THIS TYPE ARE WIDELY USED IN ELECTRIC DRIVES. IN THE PUBLISHED WORKS ARE FOUND ABOUT 30 SPECIFIC DIAGRAMMATICAL SOLUTIONS BUT THERE ARE NO COMPARATIVE ANALYSES OF ADVANTAGES AND DISADVANTAGES OF NETWORKS. THE ARTICLE CONTAINS SUCH AN ANALYSIS ALONG WITH CONCLUSIONS.

UNCLASSIFIED

Acc. Nr: AP0049045 *P*

Ref. Code: *UR0357*

PRIMARY SOURCE: Vestnik Oftal'mologii, 1970, Nr / ,
pp 68-70

THE EFFECT OF SURGICAL TREATMENT ON THE HEALING
OF AN INFECTED PERFORATING WOUND OF THE CORNEA
IN RADIATION SICKNESS

V. T. Paramet

Summary

Healing of staphylococcus-infected (strain 209) corneal wounds with and without foreign bodies (75 rabbits, 119 eyes) in radiation sickness (600 r) was studied by applying electrothermometry, bacteriological and other methods of investigation. Antibacterial therapy (levomycetin, iodinol) contributed to the formation of a conereted cicatrix of the cornea in 45 of 49 eyes. In combined medicamentous and surgical treatment the eyeball could be saved in 25 out of 56 eyes only. Wounds reaching the vitreous body ended with the loss of the eye in all cases owing to enophthalmitis. The character of the eye hyperthermia depended upon the severity of the wound and the method of treatment. The adverse effect of a surgical trauma is to be ascribed to changes in the properties of the eye following radiation injury.

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USSR

UDC 617.713-001.4-022-06:617.001.237-036.864

PARAMEY, V. T., Chair of Eye Diseases, Central Scientific Research Laboratory, Grodno Medical Institute

"The Effect of Surgery on the Healing of an Experimental Infected Wound of the Cornea During Radiation Sickness"

Moscow, Vestnik Oftal'mologii, No 1, 1970, pp 68-70

Abstract: The corneas of 80 rabbits were incised and the wounds infected with a suspension of a 24-hour Staphylococcal culture after the animals had been exposed to whole-body irradiation (600 r). Some of the animals were treated with drugs alone (levomycetin, iodinol, streptomycin, penicillin), others with drugs plus surgery. The radiation lesions did not prevent favorable healing in animals treated conservatively. Surgery, however, regardless of the drugs with which it was combined, had adverse effects. It intensified hemorrhages, caused purulent exudation and prolonged hyperthermia of the eyeball, and in many cases resulted in loss of the eye. These effects of surgical trauma are ascribed to changes in the magnetic properties of the eye following radiation injury.

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UNCLASSIFIED

PROCESSING DATE--11DEC70

1/2 022

TITLE--INFLUENCE OF CATALYST RESIDUES ON THE PROPERTIES OF POLYETHYLENE

AUTHOR--(05)--KOROBKOVA, N.M., LUGOVA, L.I., MATVEYEVA, E.N., ORLOVA, T.P.,
PARAMONOV, YE.YA.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (5), 63-4

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY, MATERIALS, PHYSICS

TOPIC TAGS--POLYETHYLENE, CATALYTIC POLYMERIZATION, ALUMINUM OXIDE,
CHROMIUM OXIDE, ELECTRIC PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3006/0921

STEP NO--UR/0191/70/000/005/0063/0064

CIRC. ACCESSION NO--AP0134650

UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0134650

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEDIUM D. POLYETHYLENE (I) WAS PREPD. BY USING AL SUB2 G SUB3 CRD SUB3 CATALYST. THE CATALYST WAS NOT REMOVED FROM I PRIOR TO TESTING AND ITS AMT. WAS APPROX. DETD. FROM THE AMT. OF ASH IN I. THE INCREASE OF ASH CONTENTS IN I FROM SIMILAR TO 0.00 TO 0.03PERCENT DECREASED THE OXIDN. INDUCTION PERIOD FROM 110 TO 15 MIN. THE ELEC. PROPERTIES OF I (DIELEC. LOSS TANGENT, RESISTANCE, DIELEC. CONST.) DID NOT CHANGE WITH THE INCREASE OF THE ASH CONTENTS IN I BEFORE AGING. HOWEVER, AFTER AGING, DUE TO THE INCREASED NO. OF CO AND CG SUB2 H GROUPS IN I WITH HIGH ASH CONTENTS, ITS ELEC. PROPERTIES WERE NOT SATISFACTORY.

UNCLASSIFIED

Converters

USSR

UDC: 621.394.676

STEPANOV, A. V., PARAMONOV, G. N., GOLOMOZYUK, V. A., "Arsenal" Plant imeni V. I. Lenin

"A Device for Converting Binary Code to Binary-Decimal-Sexagesimal Code"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 31, Nov 71, Author's Certificate No 318158, Division H, filed 29 Sep 69, published 19 Oct 71, p 211

Translation: This Author's Certificate introduces a device for converting binary code to binary-decimal-sexagesimal code. The device contains a first binary counter, a pulse generator and a binary-decimal-sexagesimal counter. As a distinguishing feature of the patent, conversion accuracy is improved by using a series-parallel summation device which contains a second binary counter and a pulse distributor whose input is connected to the generator output. The input of the generator is connected to the output of the first binary counter, and the distributor outputs are connected in parallel to the inputs of the second counter, and in series to the input of the binary-decimal-sexagesimal counter.

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USSR

UDC 681.325.54.042

SUKHOV, L. N., SHLYAKHTIN, V. T., KRYLOV, Yu. D., PANOV, V. P., and
PARAMONOV, K. G.

"A Reversible Binary Counter"

USSR Author's Certificate No 280542, Filed 12 Dec 68, Published 9 Dec 70
(from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya
Tekhnika, No 8, 1971, Abstract No 8B188 P)

Translation: The purpose of this invention is to ensure stable operation of a counter, given a significant level of noise. This is achieved by having each digit position of the counter consist of two "memory" cells connected in series via an AND cell, while a NOT inverter is connected to the input of the first position. The binary reversible counter includes an inverter, which is meant to control the counter according to the change in potential; delay lines consisting of logical "memory" elements; logic circuits consisting of AND cells; and memory elements consisting of logical "memory" elements.

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USSR

UDC: 681.327.2

SUKHOV, L. N., SHLYAKHTIN, V. T., KRYLOV, Yu. D., PANOV, V. P., PARAMONOV, K. G.

"A Reversible Binary Counter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 28, 1970, Soviet Patent No 280542, Class 21, filed 12 Dec 68, p 40

Abstract: This Author's Certificate introduces a reversible binary counter which contains digital places on "memory" cells, AND cells, and a control bus. As a distinguishing feature of the patent, operational stability is ensured in the presence of an appreciable level of industrial interference by making each digital place of the counter in the form of two "memory" cells connected in series through an AND cell, and connecting a NOT inverter to the input of the first digital place.

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USSR

UDC 621.378.325

GAPONOV, S.V., PARAMONOV, L.B.

"Laser Pulse Modulation With Retuning Of An Auxiliary Passive Resonator By Means Of Ultrasound"

Izv.VUZ:Radiofizika, Vol XV, No 8, Aug 1972, pp 1262-1264

Abstract: The paper discusses use of the photoelasticity effect for internal modulation of a gaseous laser. The laser resonator used in the experiment consists of two connected interferometers--active and passive. The active resonator, formed by a spherical mirror ($r = 1200$ mm) and a flat mirror has a length of 800 mm. A gas-discharge tube filled with a mixture of He and Ne is placed in the resonator. The length of the tube is 420 mm. The passive resonator is made in the form of a block of fused quartz glass at the two opposite ends of which mirrors are deposited. At the lower part of the block a piezoelectrical radiator is attached, which excites a resonant ultrasonic wave in the quartz with a frequency of 45.8 kHz, the pressure loop of which coincides with the position of the optical beam and the direction of the stresses with the polarization. The laser radiation at a wavelength of 0.63 micron was registered from the direction of the quartz block with the aid of a FEU[photomultiplier]-22 and a SI-7

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USSR

GAPONOV, S. V. PARAMONOV, L. B., Izv. VUZ: Radiofizika, Vol XV, No 8, Aug 1972, pp 1262-1264

oscilloscope. In the experiment repetition frequencies up to 5 MHz were obtained with a 20 V amplitude of the control voltage. The power in a pulse was approximately equal to the average power of the continuous radiation originating during substitution of the passive resonator by an output mirror. The percentage modulation did not reach 100 percent. Part of the energy of the modes, the frequencies of which do not coincide with the frequencies of the passive resonator, is radiated and forms a fixed background. In the experiment the fixed background was $6 \cdot 10^{-2}$ percent of the pulse power. The authors thank Ya. I. Khanin for valuable comments. 2 fig. 5 ref. Received by editors, 7 Jan 1972.

2/2

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USSR

UDC: 669.71.472

FORSBLOM, G. V., SEMENOV, V. S., SMORODINOV, A. N., PARAMONOV, S. A.,
BARABANOV, P. S.

"Artificial Cooling as a Method of Intensification of the Operation of Aluminum Electrolyzers"

Tr. Vses. N.-I. i Proyeckt. In-ta Alyumin., Magn. i Elektrod. Prom-sti [Works of All-Union Scientific Research and Planning Institute for the Aluminum, Magnesium and Electrode Industry], 1972, No 82, pp 15-25 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G169, by G. Svodtseva).

Translation: Tests were performed at one plant of a group of electrolyzers, equipped with various artificial cooling systems. The effectiveness of the cooling was estimated on the basis of full thermal and energy balances. The maximum increase in thermal losses amounted to 50-55,000 watts. The increase in yield per current in cooled electrolyzers was facilitated by thicker and more constant linings. The transfer of metal in cooled electrolyzers was 1.5-2 cm less than in ordinary electrolyzers. The mean parameters of the technological mode and data on the yield per current and consumption of electric power are presented. The use of a forced electrolyzer can facilitate the

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USSR

Forsblom, G. V., Semenov, V. S., Smorodinov, A. N., Paramonov, S. A., Barabanov, P. S., Tr. Vses. N.-I. i Proyeht. In-ta Alyumin., Magn. i Elektrod. Prom-sti, 1972, No 82, pp 15-25.

solution of the important economic problem of utilization of daily and seasonal excesses in electric power plant capacity.

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USSR

UDC 396.674

PARAMONOV, V.K.

"Optimization Of The Parameters Of A Cophased Antenna With A Wide-Band Active Reflector"

Elektrosvyaz', No 4, Apr 1972, pp 71-74

Translation: The conditions are discussed which are necessary for attainment of complete unidirectivity by a cophased antenna with a wide-band reflector, fed with the aid of a directional coupler. By a judicious choice of antenna parameters, it is possible to be certain of obtaining good characteristics over a wide frequency range. As an example, an antenna is considered which can find use for television reception in the frequency range of television channels 1-5. 1 ill. 3 ref. Received by editors, 3 March 1971.

1/1

- 15 -

USSR

UDC 911.3.613.11

SKOROBOGATOVA, A. M., PARAMONOV, Yu. A., LUKACHEV, V. V., ZABORSKIN, V. A.,
SHILOV, Yu. M., GRISHCHENKO, V. I.

"The Significance of Some Factors in Polar Regions for the Formation of Adaptation Processes"

V sb. Akklimatizatsiya i krayevaya patol. cheloveka na Severe (Acclimatization and Regional Pathology of Man in the Far North--collection of works), Arkhangel'sk, 1970, pp 66-68 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No. 1.36.43 by V. Zhadovskaya)

Translation: This work includes data gathered in the Antarctic, Central Arctic Basin, and experimental research in a cooling chamber. The parameters studied were: arterial pressure, pulse rate, plethysmogram, rheogram, and skin temperature in 112 polar residents. The most marked shifts occurred in new arrivals or in those who returned after an absence of 5-6 years; as well as in those polar residents with high arterial pressure. In conditions where volume charge is increased and relationship of atmospheric elements is altered, there is a decrease of skin sensitivity to low temperature. A disturbance of the balance between sympathetic and parasympathetic regulation of cardiovascular activity is also observed.

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USSR

PARAMONOV, Yu. M.

"The Service Life of Systems with Particularly Dangerous Failures"

Modelir. Slozhn. Sistem [Modeling of Complex Systems -- Collection of Works], No 1, Riga, Zinatne Press, 1972, pp 31-42 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V267, by the author).

Translation: The service life of certain systems with particularly dangerous failures is assigned on the basis of the permissible probability of failure before the end of the service life. The determination of a service life recommended generally in these cases is equal to the lower tolerance limit, which is related to the necessity of assigning not only the required reliability, but also the confidence probability, which is quite difficult in practice. It is demonstrated in this article that these difficulties can be avoided by solving the following problem. The distribution function of the random quantity ξ -- the time between failures of the product -- is known with an accuracy to parameter θ . It is required with fixed ϵ , $0 < \epsilon < 1$, to find the statistics τ such that $\sup_0 P(\xi < \tau) = \epsilon$. A number of conditions are found under which τ exists, including in the case of censored observations.

1/1

Lasers and Masers

USSR

UDC 621.375.82

MALYSHEV, B. N., KANAUKH, N. P., PARAMONOVA, N. A., KULIKOVSKIY, B. N.

"Space-Energy Characteristics of the Liquid Circulation of $\text{POCl}_3\text{Sn-Cl}_4\text{Nd}$ Lasers"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No. 1, Moscow, 1971, pp 139-140 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D1062)

Translation: The space-energy characteristics of a $\text{POCl}_3\text{SnCl}_4\text{Nd}$ circulation liquid pulsed laser were investigated and compared at various flow rates of the active liquid through the laser cell: at rest and for laminar and turbulent flow of the liquid. Authors abstract.

1/1

USSR

UDC: 621.373:530.145.6

MALYSHEV, B. N., KANAUKH, N. P., PARAMONOVA, N. A., KULIKOVSKIY, B. N.

"Space-Energy Characteristics of a $\text{POCl}_3\text{SnCl}_4\text{Nd}$ Liquid Circulation Laser"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), No 1, Moscow, 1971, pp 139-140 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D172)

Translation: The space-energy characteristics of a $\text{POCl}_3\text{SnCl}_4\text{Nd}$ liquid pulse laser of the liquid-circulation type are studied and compared for various rates of flow of the active liquid through the laser cell: for quiescent, laminar and turbulent liquid flow. Two illustrations, one table, bibliography of one title. Resumé.

1/1

USSR

UDC: 632.95.024

PARAMONOVA, T. V., Belorussian Scientific Research Institute of Fruit,
Vegetable and Potato Growing

"Effect of Herbicides on the Physiological Processes in Both Resistant
and Sensitive Plants"

Moscow, Khimiya v sel'skom khozyaystve, vol 9, no 8, 71, pp 50-51

Abstract: Greenhouse experiments on soddy-podzolic, silty-loam soil were conducted to study the effect of promethrine at doses of 2 kg/ha and linurone -- 1.5 kg/ha (act. ingred.) on the physiological processes in resistant (carrot) and sensitive (fat hen) plants. The testing procedure is detailed and the data for water content, respiration (CO₂ in leaves), total sugars (in % of absolutely dry matter) and total nitrogen (in % of absolutely dry matter) are provided in a table. It is shown that the nature of the disturbances of physiological processes in sensitive and resistant plants is dissimilar. Fat hen plants treated with promethrine and linurone display lower water contents, reduced peroxidase activity and lower

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USSR

PARAMONOVA, T. V., Khimiya v sel'skom khozyaystve, vol 9, no 8, 71, pp 50-51

respiration energy. It does not seem likely, however, that the death of the plants was caused by the reduced respiration rate. The disturbance of protein synthesis, the higher amount of nonprotein forms of nitrogen as well as the disturbance in the synthesis of sugars resulting in a marked disaccharide-to-monosaccharide ratio seem to have been the most probable responsible factors. The latter factor indicates a predominance of hydrolytic processes over synthetic. The carrot plant had at first displayed a higher water content in the leaves, higher respiration intensity and an increased activity of redox enzymes as though there were protective reactions directed to control detoxication after herbicide treatment.

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1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EFFECT OF INTERNAL ALPHA IRRADIATION ON THE CHARACTERISTICS OF THE
ANION EXCHANGER AV-23M -U-
AUTHOR--(05)-NIKOLAYEV, V.M., VYSOKOSTROVSKAYA, N.B., PARAMONOVA, V.I.,
OSIPOV, S.V., FROLOV, V.I.
COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12(1), 127-32

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--ALPHA RADIATION, ANION EXCHANGE RESIN, PLUTONIUM ISOTOPE,
MECHANICAL STRENGTH, PARTICLE SIZE/(U)AV23M ION EXCHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1206

STEP NO--UR/0135/70/012/001/0127/0132

CIRC ACCESSION NO--AP0123624

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--20NOV70

2/2 015

CIRC ACCESSION NO--AP0128624
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE AV. 23M RESIN WAS SUBJECTED TO ALPHA IRRADN. FROM ABSORBED (FROM NITRATE SOLNS.) PRIME238 PU (FOR DIFFERENT TIMES, SO THAT THE RADIATION DOSE REACHED UP TO 4 TIMES 10 PRIME8 RAD). THE SWELLING OF THE RESIN INCREASED WITH INCREASING DOSE, AND THE RESIN BECAME SOL. IN 7.5 M HNO SUB3; THE SOLY. INCREASED LINEARLY WITH THE DOSE, TO 14PERCENT AFTER IRRADN. WITH A DOSE OF SIMILAR TO 3 TIMES 10 PRIME8 RAD. THE INCREASE IN SWELLING AND SOLY. IS ATTRIBUTED TO THE DESTRUCTION OF CROSSLINKING. THE COLOR OF THE RESIN CHANGED FROM LIGHT YELLOW TO RED, AND THE AV. PARTICLE SIZE INCREASED SOMEWHAT AS A RESULT OF IRRADN. THE SORPTION CAPACITY OF THE RESIN DECREASED BY 10PERCENT ON IRRADN. WITH 2.57 TIMES 10 PRIME8 RAD; THE LOSS OF EXCHANGE GROUPS WAS 1.18 GROUPS-100 EV. ALTHOUGH THE TOTAL AMT. OF PRIME238 PU SORBED ON THE RESIN IN CONTACT WITH SOLN. DECREASED WITH TIME (AS A RESULT OF THE DECREASE IN CAPACITY AND OXIDN. OF THE PU TO THE HEXAVALENT STATE), THE AMT. OF IRREVERSIBLY SORBED PU INCREASED FROM 0 IN THE CASE OF NONIRRADIATED RESIN TO 8 MG-KG IN THE CASE OF RESIN IRRADIATED WITH 2.4 TIMES 10 PRIME8 RAD. THE MECH. STRENGTH OF THE NONIRRADIATED RESIN AND THE RESIN IRRADIATED WITH A DOSE OF 2.57 TIMES 10 PRIME8 RAD WAS 355 AND 85 G-GRAIN, RESP.

UNCLASSIFIED

USSR

UDC 541.15

PARAMONOVA, V. I., VYSOKOOSTROVSKAYA, N. B., NIKOLAYEV, V. M., OSIPOV, S. V., and FROLOV, V. I.

"Effect of Internal Alpha-Irradiation on Characteristics of Anion Exchanger AV-23M"

Leningrad, Radiokhimiya, Vol 12, No 1, 1970, pp 127-132

Abstract: The article describes results of a study of the effect of internal alpha-irradiation dose on the capacity, basicity, swelling capacity, mechanical grain strength and solubility of vinylpyridine anion exchanger AV-23M, as well as the distribution of some fission products of Zr-95 + Nb-95, Ce-144 + Pr-141, Ru-106 + Rh-106. The isotope Pu-238 was used for irradiation. The principal result of the action of alpha radiation was found to be the breakdown of resin cross-linkage. This is manifested in increased swelling capacity and decreased grain strength. Internal alpha-irradiation of the resin results in its dissolution, with complete dissolution, according to estimates, setting in at a dose of about $(2.5 - 3.8) \cdot 10^4$ g·hr Pu-238/kg

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USSR

PARAMONOVA, V. I., et al., Radiokhimiya, Vol 12, No 1, 1970, pp 127-132

absolutely dry resin.

At a maximum dose equal to $2.57 \cdot 10^8$ rad there is a mere 10 percent decrease in capacity and practically no change in basicity. According to resultant data the capacity loss rate constant was estimated to be $K = (0.27 \pm 0.1) \cdot 10^{-9}$ rad⁻¹ and the radiation-chemical reaction yield $G_0 = 1.18 \pm 0.45$ exchange groups/100 ev.

Dissolution of the resin and the decrease in its capacity result in the appearance of plutonium-238 in solution. Not less than 70 percent of the plutonium found in solution is oxidized to the hexavalent state.

Alpha-irradiation results in changed resin sorption characteristics. The amount of irreversibly sorbed plutonium increases with

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USSR

PARAMONOVA, V. I., et al., Radiokhimiya, Vol 12, No 1, 1970, pp 127-132

irradiation dose, but even at the maximum dose it is an insignificant quantity (hundredths of a percent of the initially sorbed quantity of plutonium).

3/3

Acc. Nr.

ATO 108000

Abstracting Service:
CHEMICAL ABST.

Ref. Code

UR 0425

128182q Thermogravimetric analysis of alkaline-earth metal hydrofluorides. Ikrami, D. D.; Paramzin, A. S. (Inst. Khim., Dushanbe, USSR). Dokl. Akad. Nauk Tadzh. SSR 1970, 13 (1), 40-3 (Russ). Tests were conducted at 17-20°/min. on a Kurnakov pyrometer. The most heat resistant were mono-

hydrofluorides, and $\text{BaF}_2 \cdot \text{HF} > \text{SrF}_2 \cdot \text{HF}$. $\text{SrF}_2 \cdot 2.5\text{HF}$, $\text{BaF}_2 \cdot 3\text{HF}$, and $\text{BaF}_2 \cdot 4.5\text{HF}$ decomp. gradually to form $\text{MF}_2 \cdot \text{HF}$.

The total decompn. scheme was: $\text{SrF}_2 \cdot 2.5\text{HF} \xrightarrow[85^\circ]{-0.5\text{HF}} \text{SrF}_2 \cdot 2\text{HF}$

$\xrightarrow[100^\circ]{-\text{HF}} \text{SrF}_2 \cdot \text{HF} \xrightarrow[185^\circ]{-\text{HF}} \text{SrF}_2$. $\text{BaF}_2 \cdot 3\text{HF}$ and $\text{BaF}_2 \cdot 4.5\text{HF}$ decompd. at 125° to $\text{BaF}_2 \cdot \text{HF}$, which loses HF at 225°. S. Folek

ELB

REEL/FRAME

19891580

USSR

UDC 613.644-0-07:612.014.45

PARAN'KO, N. M., Krivorog Institute of Labor Sygiene and Occupational Diseases

"The Spread of Vibration of Complex Spectral Composition in Body Tissues"

Moscow, Gigiyena i Sanitariya, No 4, 1971, pp 103-104

Abstract: The purpose of this experimental study on healthy male subjects was to investigate the spread of vibration of complex spectral composition and to determine whether the spread is related to static contraction of the muscles. The spread of vibration was judged from the level and nature of the spectral composition recorded on the handle of a drilling machine and at various points on the body (back of the hand, elbow, upper third of the arm, shoulder blade, forehead). The extent to which vibration spread was found to vary with the frequency and energy of the stress. Low frequencies (up to 63 Hz) spread through the tissues of the upper extremities to the trunk. Medium frequencies (from 63 to 250 Hz) were absorbed by the tissues of the upper extremities. High frequencies (over 250 Hz) were completely absorbed by the tissues of the hand and forearm. A direct relationship was observed between static exertion and intensity of vibration, particularly at the basic frequency, i.e., the frequency with the maximum energy. The conduction of vibration increased in
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USSR

PARAN'KO, N. M., Gigiyena i Sanitariya, No 4, 1971, pp 103-104

the tissues with increasing static contraction of the muscles of the upper extremities. With a doubling of the grip force, the level of vibrations ranged from 1 to 3 db at frequencies up to 16 Hz, from 5 to 7 db at frequencies of 32 to 63 Hz, and an average of 2 db at frequencies of 125 to 250 Hz.

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USSR

UDC 616.132.2-008.64-082:362.121(47-21)

PARANSKAYA, Zh. A., Moscow

"Some Data on Medical Care Given to Patients with Coronary Insufficiency in the Municipal Polyclinic"

Moscow, Zdravookhraneniye Rossiyskoy Federatsii, No 7, Jul 70, pp 20-22

Abstract: A diagnosis of coronary insufficiency was established for 317 of 5983 patients treated at Polyclinic No 31. Of the 317, 237 had suffered from this condition for 1-6 years and 41, for over 10 years; 45 of the patients had myocardial infarctions. Many patients appeared for treatment less frequently than necessary, and 46 did not consult the physicians at all, primarily because the clinic was overcrowded and it was difficult to set up appointments. Furthermore, 122 out of the 317 patients needed at-home care, but only 96 were visited by physicians, and those less frequently than necessary. Another study revealed that adequate medical treatment was not given to 14.8% of the patients at the clinic and 21.4% of those at home. Some who needed hospitalization remained at home either because there were no available beds in the hospital or because they refused to be hospitalized. While 89 patients were either retired, invalids (due to other diseases), or housewives, 228 were employed. As a result of recurring temporary incapacitation, the last group missed 3,284 work days per year. Patients treated with heparin or other anti-coagulants missed considerably fewer work days than those receiving no prophylactic

USSR

PARANSKAYA, Zh. A., Zdravookhraneniye Rossiyskoy Federatsii, No 7, Jul 70, pp 20-22

treatment. Of the 228 employed patients, 92 required more suitable jobs; 27 patients found such jobs; 27 others discontinued work entirely. The study indicates that proper prophylactic treatment and job placement increase the ability of patients with coronary insufficiency to work.

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1/2 C17 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EXPERIENCE IN POLYCLINICAL PROPHYLACTIC TREATMENT OF PATIENTS
SUFFERING FROM CORONARY INSUFFICIENCY -U-
AUTHOR--PAKANSKAYA, ZH.A. P
COUNTRY OF INFO--USSR
SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 4, PP 109-112
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HEART DISEASE, CORONARY BLOOD CIRCULATION, HEPARIN,
ANTICAGULANT DRUG
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--3004/0745 STEP NO--UR/0497/70/048/004/0109/0112
CIRC ACCESSION NO--AP0131340
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0131340

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR SUMMARIZED THE EXPERIENCE IN POLYCLINICAL PROPHYLACTIC TREATMENT OF PATIENTS SUFFERING FROM CORONARY INSUFFICIENCY WITH HEPARIN AND INDIRECT ANTICOAGULANTS. A COURSE TREATMENT IN THE SPRING WINTER AND AUTUMN WINTER PERIODS FOR 2 AND ONE HALF TO 3 MONTHS IMPROVES THE STATE OF PATIENTS, PRESERVES THEIR WORKING CAPACITY, GIVES A POSITIVE ELECTROCARDIOGRAPHIC DYNAMICS IN A NUMBER OF PATIENTS, EXERTING NO INFLUENCE ON THE BLOOD CONTENT OF CHOLESTEROL AND BETA LIPOPROTEINS. HEPARIN IN RECEDED DOSES FROM 20,000 TO 10,000 UNITS IN COMBINATION WITH INDIRECT ANTICOAGULANTS IS AN EFFECTIVE MEANS OF POLYCLINICAL PROPHYLACTIC TREATMENT OF PATIENTS WITH CORONARY INSUFFICIENCY.

FACILITY: POLIKLINIKA NO 31, MOSKVA.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ZINC BALANCE IN PATIENTS WITH ULCER DISEASE -U-
AUTHOR--PARASHCHAK, A.P.
COUNTRY OF INFO--USSR
SOURCE--VRACHEBNOYE DELU, 1970, NR 4, PP 115-118
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ZINC, FOOD ANALYSIS, URINE, DIGESTIVE SYSTEM DISEASE,
SECRETION, GALLBLADDER, LIVER, POLAROGRAPHIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1696

STEP NO--UR/0475/70/000/004/0115/0118

CIRC ACCESSION NO--AP0129066

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129066

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A POLAROGRAPHIC STUDY OF ZINC CONTENTS IN THE FOOD, URINE AND FECES CARRIED OUT IN 64 PATIENTS WITH ULCER DISEASE BEFORE AND AFTER CONSERVATIVE TREATMENT SUGGESTS THAT THESE PATIENTS SHOW A MORE INTENSE RETENTION OF ZINC AS COMPARED WITH HEALTHY PERSONS. THE RETENTION WAS IN PARTICULAR HIGH IN PATIENTS WITH MARKEDLY ELEVATED ACIDITY AND IN PATIENTS WITH CALLOUS ULCER ACCOMPANIED BY DECREASED OR NORMAL GASTRIC SECRETION. THE ZINC BALANCE WAS NEGATIVE IN CASE OF NONCOMITANT HEPATOCHOLECYSTITIS. COMPLEX TREATMENT OF ULCER RESULTED IN A TENDENCY TO NORMALIZATION OF THE ZINC BALANCE, THROUGH LAGGING BEHIND CLINICAL IMPROVEMENT. FACILITY: IVANO FRANKOVSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ALL PURPOSE APPARATUS FOR DIFFERENTIAL THERMAL ANALYSIS -U-
AUTHOR--(03)-GALVIDIS, N.M., STRONGIN, B.G., PARASINCHUK, N.S.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 280-3
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--THERMAL ANALYSIS, LABORATORY FURNACE, EXPLOSIVE, THERMOGRAM,
SELENIUM, PHASE COMPOSITION, TOXICITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/0369
CIRC ACCESSION NO--AP0111562
UNCLASSIFIED

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024

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0111562

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE DTA APP. IS DESCRIBED. THE

FURNACE CAN BE USED FOR DETG. THE APPROPRIATE THERMAL TREATMENT AND (OR)

FOR DTA OF THE COMPD. THE APP. IS USED FOR EXPLOSIVE AND TOXIC

SUBSTANCES. THE THERMOGRAPH OF SE, WATER QUENCHED AT 400DEGREES,

ILLUSTRATES ITS STRUCTURAL CHANGES IN THE AMORPHOUS, CRYST., AND LIQ.

PHASE.

FACILITY: CHERNOVITS. GOS. UNIV., CHERNOVITSY, USSR.

UNCLASSIFIED

UDC 681.3.06.51

USSR

PARASOVA, N. A., BOZ, M. M.

"Factographic Information Systems with Digital Computers. Analytic Review"

Faktograficheskiye Informatsionnyye Sistemy Na Etsvm. Analit. Obzor. [English Version Above], Moscow, 1970, 190 pages (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V646K).

Translation: A method is suggested for classification of various information systems. A number of concrete information systems are studied using computers included in the class of factorgraphic systems, i. e., containing completely formalized description of facts, data, etc. Both the general statements and regularities in the development of the structures of the systems, and the specifics of individual systems, related to specific areas of application, are studied. Systems with flexible structure, as well as systems for processing of commercial information are most fully studied.

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UDC 576.858.75.095.57

USSR

PODCHERNYAYEVA, R. Ya., SOKOLOV, M. I., ~~PARASYUK, N. A.~~, MYASNIKOVA, I. A.,
BASOVA, E. A., SOKOLOVA, N. N., and MOLIBOG, Ye. V., Institute of Virology
imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Study of Genetic Markers and Their Variability in Influenza Virus Isolated
During the 1968-1969 Influenza Epidemic. II. Variability of Genetic
Markers in Influenza Type A₂ (Hongkong) Virus in Passages in Mice at Low
Temperatures"

Moscow, Voprosy Virusologii, No 5, 1971, pp 543-548

Abstract: Ten passages of influenza type A₂ (Hong Kong) virus in mice re-
sulted in variants that produced lung changes typical of influenza in mice.
After the 20th passage, the pathogenic variants exhibited increased repro-
ductive activity at 36 and 40°C. All strains, except A₂ (Hong Kong) 1/68
M₂₀, resisted heating to 56°C. Like the original strains, they were com-
pleted adsorbed on chick erythrocytes but were more readily eluted from
them. Neuraminidase activity was half that in the original strains. The
pathological variants remained sensitive to normal animal serum inhibitors
and did not agglutinate mouse erythrocytes. They resembled the original
strains in resistance to trypsin, urea, and ultraviolet irradiation.

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USSR

PODCHERNYAYEVA, R. Ya., et al., Voprosy Virusologii, No 5, 1971, pp 543-548

After 10 passages of A2 (Hong Kong) 1/68 and its pathogenic variant A2 (Hong Kong) 1/68 M₂₀ in chick embryos incubated after inoculation at 28°C both strains reproduced actively and remained able to do so even at 40°C.

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USSR

UDC 576.858.75.095 5

SOKOLOV, M. I., PODCHERNYAYEVA, R. Ya., PARASYUK, N. A., MYASNIKOVA, I. A.,
MEN'SKIKH, L. K., MOLIBOG, Ye. V., SOKOLOVA, N. N., and STAKHANOVA, V. M.,
Institute of Biorology imeni D. I. Ivanovskiy, Academy of Medical Sciences,
USSR, Moscow

"Study of Genetic Properties and Their Variability in Viruses Isolated in the
1968-1969 Influenza Epidemic. Communication 1: Biological Properties of
Strains of A2/Hong-Kong 1/68"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 70, pp 677-680

Abstract: A study was made of the inhibitor ratio, thermal stability, neuram-
midase and eluent activities, stability against UV light, and pathogenic and
toxic effects on white mice of the A2/Hong-Kong 1/68 flu strain and two similar
strains isolated in the USSR. The latter strains did not differ significantly
from the former. On the basis of the test results, it is assumed that evolu-
tion of the A2 virus in nature does not involve reversion to strains of group
AO. Additional studies with laboratory varieties are required to elucidate
this problem.

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1/2 020 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--HEATING OF CASTINGS IN A THERMAL FURNACE WITH A CAR TYPE BOTTOM -U-
AUTHOR--(05)-PARASYUK, P.F., SHERSTYUK, A.A., KORNIICHUK, A.I., TUMANSKIY,
B.F., BERKUN, M.N.
COUNTRY OF INFO--USSR
SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2), 49-50
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METAL CASTING, METAL HEATING, HIGH MANGANESE STEEL, CAST
STEEL, AUSTENITIC STEEL, METALLURGIC FURNACE/(U)110G13L HIGH MANGANESE
STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/1288

STEP NO--UR/0129/70/000/002/0049/0050

CIRC ACCESSION NO--AP0106069

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0106069

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR BETTER CONTROL OF HEATING IN A FURNACE WITH A CAR TYPE BOTTOM, THE THERMOCOUPLE SHOULD NOT BE PLACED IN THE ARCH OF THE FURNACE BECAUSE OF THE LARGE HEAT GRADIENT BETWEEN THE CASTING AND THE ARCH. IN THE STUDY OF HEATING A CASTING OF 110G13L FOR 17 HR, BECAUSE OF THIS LARGE HEAT DIFFERENCE, THE CASTING WAS NOT HEATED TO THE NECESSARY TEMP. AS A RESULT, INSTEAD OF PURE AUSTENITE, UNDISSOLVED CARBIDES REMAINED IN THE CASTING. THE AMT. OF SCALE FORMED ON 110G13L CASTINGS DEPENDS ON THEIR POSITION IN THE FURNACE; THE LESSER AMT. IN THE CENTER OF THE FURNACE, THE MOST AT THE END DOWING TO LEAKS OF THE JOINT OF THE CAR TYPE BOTTOM AND THE LINING WALL. IN THE STUDY OF THE EFFECT OF COMPN. OF THE HEATING PRODUCTS FROM THE GAS ON SCALE FORMATION IN 110G13L DURING TEMPERING, ANAL. OF THE PRODUCTS SHOWED THAT WITH INCREASE IN EXCESS AIR, THE DEPTH OF THE SCALE AND DECARBURIZED LAYER ON THE SURFACE OF THE CASTINGS INCREASED. ARTHUR J. PEAT.

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UDC: 621.382.3:621.372.061

PARATOV, G. M., LITKENS, Ye. M., and SHUL'GINA, G. S.

"Using the Electronic Computer to Model the Relation Between Qualitative Indices and Structural Parameters of a Transistor"

Kiev, Izvestiya VUZov SSSR--Radioelektronika, No. 6, 1970, pp 701-709

Abstract: This article considers the application of a mathematical model on an electronic computer for analyzing a planar diffusion transistor typically used as the active component in an integrated circuit. The computation of the qualitative indices of such a transistor as a function of its structural parameters, the impurity distribution in its structure, and the physical characteristics of the semiconductor, uses the description of the migration process and the recombination of carriers, as well as many other factors; consequently, a general algorithm for computing its static and dynamic qualitative indices is extremely difficult and must be worked out on an electronic computer. The model worked out by the author is given in the form of a block diagram. The mathematical model of the transistor contains the electrical qualitative indices of the device which are used as output parameters while the structural and physical indices of the integrated circuit are used as input parameters. The programs of the mathematical model were made up of the "Engineer" autocode input language, and the calculations were done on the Minsk-22 computer.

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PARAYEV, YU. I.,

"Introduction to the Statistical Dynamics of Filtration and Control Processes"

Vvedeniye v Statisticheskuyu Dinamiku Protsessov Upravleniya i Fil'tratsii [English version above], Tomsk University Press, 1973, 218 pp (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V223)

Translation: This book contains a systematic presentation of extensive material on the application of the theory of Markov processes and the theory of stochastic differential equations to problems of automatic control and processing of information. Primary attention is given to the following problems: investigation of the behavior of automatic systems described by ordinary differential equations, the right portions of which include random perturbations of Gaussian and Poisson types; calculation of optimal estimates of the instantaneous values of the coordinates of such systems on the basis of observations of a certain process statistically related to the output of the system; optimal control of such systems, including in the case when the output coordinates of the object are measured with random errors. Automatic systems described by linear stochastic differential equations and linear equations

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PARAYEV, YU. I., Vvedeniye v Statisticheskuyu Dinamiku Protsessov Up-ravleniya i Fil'tratsii, Tomsk University Press, 1973, 218 pp

with random coefficients are studied in detail. The book is written at an easily understood mathematical level and is designed for engineers, students, graduate students and scientific workers involved in the application of probabilistic methods to problems of automatic control and processing of information. It can also be used as a text book for students and graduate students studying applied mathematics, automation and telemechanics, and engineering cybernetics. Annotation

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UDC 519.217

PARAYEV, Yu. I.

"Optimal Control with Inertial Stochastic Feedback"

Nelineyn. i Optimal'n. Sistemy [Nonlinear and Optimal Systems], Moscow, Nauka Press, 1971, pp 119-125, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V113 by R. Lintser).

Translation: The solution of the following problem of control with incomplete data is studied. Controlled process $x(t)$ is the solution of the differential equation

$$\dot{x}_t = Ax_t + Bu_t,$$

where control u_t is selected so as to minimize the functional

$$\frac{1}{2} M \left[\int_0^T (x_t^* C x_t + u_t^* D u_t + 2 x_t^* F u_t) dt + x_T^* E x_T \right],$$

where the quadratic forms $x^* C x + 2 x^* F u$ and $x^* E x$ are non-negatively defined, while $u^* D u$ is positively defined. It is assumed that the values of

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PARAYEV, Yu. I., Nelineyn. i Optimal'n. Sistemy, Moscow, Nauka Press, 1971, pp 119-125.

$$z(t) = \int_{t_0}^T S(t, \xi) x(\xi) d\xi + n(t),$$

can be observed, where $S(t, \xi)$ is a deterministic function, while $n(t)$ is a Gaussian process with zero mathematical expectation and known correlation function. It is demonstrated that the optimal control is fixed by the formula $u(t) = G_T(t) \hat{x}_t$, where \hat{x}_t is an estimate of the maximum likelihood, for x_t , while $G_T(t)$ is a deterministic matrix. It is assumed here that where $n(t) \equiv 0$, the values of x_t can be restored without error and the maximum control for this case will be

$$u(t) = G_T(t) x_t.$$

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UDC 519.281

PARAYEV, Yu. I.

"Application of Theory of Conditional Markov Processes to Problems of Identification of Dynamic Objects"

Metody Upr. Bol'shimi Sistemami. T. 2 [Methods of Control of Large Systems, Vol. 2 -- Collection of Works], Irkutsk, 1970, pp 171-178 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V206 by Ye. Barzilovich).

Translation: A control object is studied, the status of which is described by a system of differential equations

$$\dot{x}_i = \sum_{k=1}^m f_{ik}(t, x, u) a_k + g_i(t, x, u) + n_i, \quad (i=1, 2, \dots, n),$$

where $x = \{x_1, x_2, \dots, x_n\}$ is the vector of output phase coordinates of the object, $u = \{u_1, u_2, \dots, u_q\}$ is the vector of input actions $a = \{a_1, a_2, \dots, a_m\}$ is the vector of unknown parameters, $n = \{n_1, n_2, \dots, n_n\}$ is white Gaussian noise with 0 mean and known spectral density matrix, $f_{ij}(t, x, u)$ and $g_i(t, x, u)$ are known functions.

The problem of determining unknown parameters a on the basis of observations of input $u(t)$ and output $x(t)$ of the object in sector $[t_0, t]$ is stated and solved.

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USSR

UDC 577.391:577.4

SOKOLOVA, N. V., and PARCHEVSKIY, V. P., Institute of Biology of the Southern Seas, Academy of Sciences Ukrainian SSR, and the Magadan Branch of TINRO [Pacific Ocean Scientific Research Institute of Fisheries and Oceanography]

"Lead-210 in Some Hydrobionts in the Sea of Okhotsk and the Bering Sea"

Sverdlovsk, Ekologiya, No 5, 1972, pp 30-36

Abstract: Investigations were conducted from 1966 to 1969 on the Pb^{210} content in the tissues of various fishes and mammals obtained from the Sea of Okhotsk and the Bering Sea. The mammals evaluated in the Bering Sea were *Pusa hispida krascheninikovi*, *Eschrichtius gibbosus*, and *Histiophoca fasciata* and are listed in sequence indicating increasing coefficient of Pb^{210} accumulation in bones (i.e., Pb^{210} in tissue/ Pb^{210} in water). The fishes studied in the Sea of Okhotsk were *Oncorhynchus keta*, *Eleginus gracilis* *Lepidopsetta* sp., and *Clupea harengus pallasii* and the mammals that were investigated were *Pusa hispida ochotensis* and *Phoca vitulina*. The coefficient of accumulation of Pb^{210} in the tissues of mammals obtained from the two seas varied from 1000 to 2100, while for the fishes obtained from the Sea of Okhotsk it ranged from 110 to 220 for whole fishes, from 450 to 670 for bones, and from 580 to 800 for fins. Comparison was also made between the bone concentrations of Pb^{210} and

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SOKOLOVA, N. V. and PARCHEVSKIY, V. P., Ekologiya, No 5, 1972, pp 30-36

Sr^{90} in the hair seal (*Pusa hispida*) found in the Sea of Okhotsk in 1969. The former element is a natural radionuclide and the latter is formed as a result of nuclear explosions; both enter the waters from the atmosphere. The coefficient of correlation was 0.94 for the ash content and 0.97 in terms of wet weight. Determinations of the equilibrium dose constants showed that the radionuclides of the Pb^{210} - Bi^{210} - Po^{210} series are the major source of radiation in the case of marine organisms.

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Physiology

UDC 576.851.252.095.10

USSR

PROKHOROV, V. Ya., SHILOV, V. M., AKATOV, A. K., and ~~PARCHINSKAYA, I. A.~~
Institute of Medical Biological Problems and Institute of Epidemiology and
Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Activation of the Biological Properties of Staphylococci Isolated From
Humans During a Prolonged Stay in a Hermetically Sealed Chamber"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971,
pp 63-68

Abstract: Staphylococci were periodically isolated from three people confined to an airtight chamber for a year to study the biological properties of the microorganisms and determine whether the microbes could be exchanged between the subjects. Various strains of the same phage type (29/52) showed increased biological activity in the course of the year as manifested by a regular increase in the titers of alpha-toxin, appearance of fibrinolysin and beta-toxin not detected at the beginning of the experiment, and much greater virulence for mice. Before the experiment, Staphylococci of the phage type 29/52 were isolated from two of the subjects, but they were transmitted to the third subject at the beginning of the second month and

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